

A Brief History of Research in Weeks Bay NERR

Coastal and estuarine researchers recognized early on that Weeks Bay was an excellent site for certain types of research. The entire watershed of Weeks Bay – from the first order blackwater streams at its headwaters to the embedded estuary at its terminus – is within Baldwin County. The usefulness of this small system as a model for much larger systems was not lost on the researchers, educators and conservationists who came together to promote and create the reserve as it now exists. To begin the process of designation, an environmental impact survey was commissioned and published in 1985.

In 1990, the research coordinators (RCs) in the system at that time began meeting yearly and discussing issues of importance at the national level. These meetings were the beginning of the System-Wide Monitoring Program (SWMP). The stated goal of SWMP is to “track short-term variability and long-term change” in estuarine systems. SWMP started with the deployment of electronic hydrographic dataloggers at two permanent sites. These dataloggers monitor water temperature, conductivity and salinity, depth, pH, dissolved oxygen and turbidity – logging a reading every half hour. Dataloggers



Research

were first deployed at Weeks Bay in the fall of 1995 (originally by Dauphin Island Sea Lab staff), and these sites are still being monitored.

A weather station monitoring air temperature, relative humidity, barometric pressure, wind speed and direction, photosynthetically active radiation and rainfall was added in 2001. Two more hydrographic sites were added in 2002. In 2003, monthly measurements of ammonium, nitrite, nitrate, phosphate and chlorophyll concentration began at each of the datalogger sites. At one site we began taking monthly tidal cycle samples of these same parameters.

All of these data are carefully checked for accuracy and maintained in a database housed at the Belle Baruch Laboratory in Georgetown, South Carolina. These data (from all 26 NERRS in the nation) are available for querying or downloading on the internet at: <http://cdmo.baruch.sc.edu>. Weather data from Weeks Bay Reserve has been available in real time since 2002 on the Web at: <http://cast-net.disl.org/monitoringdata/nep/index.htm>. These real-time data are available through the support of the Marine Estuarine Environmental Research Center at Faulkner State Community College, the Mobile Bay National Estuary Program and Dauphin Island Sea Lab staff

Another research program initiated by the RCs is the Graduate Research Fellowship Program (GRF). This is a competitive fellowship providing a stipend for graduate students who do their research at a NERRS site. Each reserve has two fellowships at a time that last for 1-3 years. Since the beginning of the GRF program at the reserve,

there have been eight projects finished, and two are ongoing. A new fellowship will be awarded June 1st of this year. For more information on the GRF program, see the NERR website at: <http://nerrs.noaa.gov>.

The research coordinator position was established at the Weeks Bay Reserve in the fall of 1999. The research coordinator oversees SWMP and the GRF program, directs original research projects and coordinates and cooperates with visiting researchers on their projects within the reserve. The SWMP technician position was added in 2002. A geographic information systems (GIS) technician was also added through the Protected Area GIS initiative at NOAA. This specialist is involved with mapping, remote sensing and data management. Earlier, the watershed coordinator position was established and more recently, a stewardship coordinator position was created. The watershed coordinator is involved in non-point source pollution investigation and mediation, and the stewardship coordinator is involved in conservation biology and restoration ecology.

Research within the watershed has increased exponentially since the establishment of the reserve. As we collect more baseline data, and more research is based here, the overall knowledge base becomes greater, which attracts even more research. This symbiotic enhancement is simply illustrated by the list of 20 research institutions that have had researchers working at the Weeks Bay Reserve in the last 5 years. Most importantly, research from Weeks Bay directly affects management decisions of this valuable natural resource.

20 Research Institutions that have had research projects in Weeks Bay Reserve over the past 5 years:

1. Dauphin Island Sea Lab
 2. University of South Alabama
 3. Troy University
 4. Auburn University
 5. University of Alabama
 6. Mississippi State University
 7. Eastern Illinois University
 8. Southern Illinois University
 9. Gulf Coast Research Laboratory
 10. University of New Orleans
 11. University of Southern Mississippi
 12. Louisiana State University
 13. Texas A&M University
 14. University of West Florida
 15. The Ohio State University
 16. Case Western Reserve University
 17. Geological Survey of Alabama
 18. United States Geological Survey
 19. AL Dept of Environmental Management
 20. AL Dept. of Conservation and Natural Resources, Lands Division
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